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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-----------------------------|------------------|
| 09/636,565 | 08/10/2000 | Jean-Marc Wilhem | 10000-12US(100081 US/WO) | 6484 |

570 7590 04/10/2002

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EXAMINER

CHOI, JACOB Y

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/636,565

Applicant(s)

WILHEM ET AL.

Examiner

Jacob Y Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/10/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 4-10, 12-15, 19-24 and 26-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29 & 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on y is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the

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specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.
- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may

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point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

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- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

3. Claims 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29 & 30 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29 & 30 not been further treated on the merits.
4. Claims 11 & 25 are objected to because of the following informalities: claim 11 is depended on claim 11 themselves and claim 25 is depended on claim 25 themselves. Appropriate correction is required and the following claims are not been further treated on the merits.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1, 16, 31 & 34 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

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MPEP § 2172.01. The omitted structural cooperative relationships are: how is the light emitting source as applicant recites in claim make up a light intensifier night vision system? In addition, structural cooperative relationships are linked by phrases such as characterized, comprises and consisting, all in one claim. Applicant does not clearly identify the structural relationship between the light-emitting source(s) and a light intensifier night vision system.

The term "and / or" in claims 2, 17, 32, 39 & 42 are a relative term which renders the claim indefinite. The term "and / or" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The claim would have different limitation depended on the usage of the word and / or, therefore, it is indefinite to use word and / or at the same time.

The term "it" in claims 16, 34, 37 & 41 are a relative term which renders the claim indefinite. The term "it" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear to what "it" is referring to. Lighting means? Position lights? Landing lights, Anti-collision lights, Flight training lights?

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 16, 17, 18 & 31-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borkowski (USPN 6,247,825 B1).

Regarding claims 1, 16, 31, 34 & 44, Borkowski discloses at least one light-emitting source (shown in Figure 8) of a multi colored white light with high radiant energy in the violet/blue wavelengths band, and with low residual energy in the red wavelengths band, and of a light intensifier night vision system (shown in Figure 11). It would have been obvious at the time the invention was made to state that the white light is polychromatic, since it was known in the art that white is composed of more than one wavelength or multicolored. It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of particular structure. *Ex parte Pfeiffer*, 1962 C.D. 408 (1961).

Regarding claims 2, 17, 32, 33, 35, 36 & 45, Borkowski discloses the claimed invention, explained above. In addition, Borkowski discloses the multi colored white light having a high radiant energy in the green/yellow and / or orange wavelengths bands, with low residual energy in the red wavelengths band there is no filtering done, in the red wavelengths band, of the light emitted by the white light-emitting diodes (shown in Figure 11). It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of particular structure. *Ex parte Pfeiffer*, 1962 C.D. 408 (1961).

Regarding claims 3 & 18, Borkowski disclose the claimed invention, explained above. In addition, Borkowski discloses the multi colored light-emitting source has an emission spectrum having a dominant (first peak of the Figure 11 shown between 440-500 (nm) region) in the violet/blue wavelengths band and a dominant (second peak of the Figure 11 shown between upper 550 – upper 560 (nm) region) in the green/yellow wavelengths band. It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of particular structure. *Ex parte Pfeiffer*, 1962 C.D. 408 (1961).

Regarding claim 37, Borkowski disclose lighting means having a white light-emitting a multi colored white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have plurality white light-emitting diode on a printed circuit, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 38, Borkowski disclose the claimed invention, explained above. In addition, Borkowski disclose the white light-emitting diode or the printed circuit is fixedly joined to a screw-in or bayonet type socket. It is inherent that the circuit board of Borkowski needs to be mounted behind the dash to illuminate a cockpit.

Regarding claim 39, Borkowski disclose the claimed invention, explained above. In addition, Borkowski disclose the multi colored white light having a high radiant energy

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in the green/yellow and/or orange wavelengths bands with low residual energy in the red wavelengths band.

Regarding claim 40, Borkowski disclose the claimed invention, explained above. In addition, Borkowski disclose the multi colored white light has an emission spectrum having a dominant in the violet/blue wavelengths band and a dominant in the green/yellow wavelengths band.

Regarding claim 41, Borkowski disclose lighting means having a ramp of white light-emitting diodes emitting a multi colored white light with high radiant energy in the violet/blue wavelengths band and low residual energy in the red wavelengths band.

Regarding claim 42, Borkowski disclose the claimed invention, explained above. In addition, Borkowski disclose the multi colored white light having a high radiant energy in the green/yellow and/or orange wavelengths bands with low residual energy in the red wavelengths band.

Regarding claim 43, Borkowski disclose the claimed invention, explained above. In addition, Borkowski disclose the multi colored white light has an emission spectrum comprising a dominant in the violet/blue wavelengths band and a dominant in the green/yellow wavelengths band.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cote et al. (USPN 6,244,728 B1) – light emitting diode assembly for use as an aircraft position light

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Doughty et al. (USPN 5,851,063) – light-emitting diode white light source

Zhang et al. (USPN 6,227,679 B1) – LED light bulb

Willis (USPN 6,351,079 B1) – lighting control device

Lambert (USPN 5,124,892) – hand mounted aviation night vision illuminating device

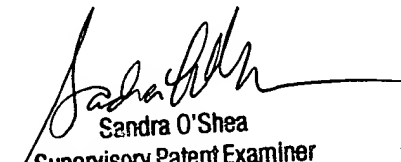
Fleck (USPN 6,268,702 B1) – lamp for an external warning light

Techtrends by Bill Schweber (August 2, 2001) – LEDs move from indication to illumination

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y Choi whose telephone number is (703) 308-4792. The examiner can normally be reached on Monday-Friday (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-8303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-7724.


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800

JC
April 3, 2002